

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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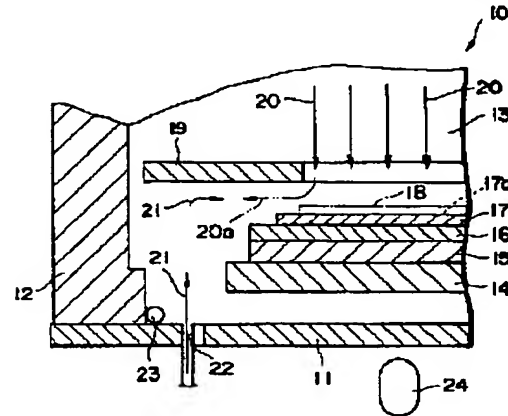
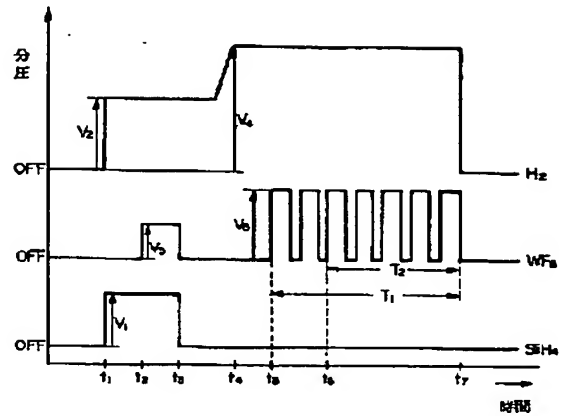
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INVENTOR : OKUNO YASUYUKI;

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TITLE : MANUFACTURE OF  
SEMICONDUCTOR ELEMENT



**ABSTRACT :** PROBLEM TO BE SOLVED: To protect a contact layer against corrosion caused by metal halogen gas left in a reaction chamber and to form a metal layer so as to fill up recesses, by a method wherein metal halogen gas is intermittently feed into the reaction chamber at a second step under conditions different from those at a first step.

**SOLUTION:** After a first step is finished, a partial pressure  $V_2$  of hydrogen is increased to a partial pressure  $V_4$  in a time  $t_4$  through idling, and then tungsten hexafluoride is feed in pulse or intermittently into a reaction chamber at a partial pressure  $V_5$  higher than a partial pressure  $V_3$  from a time  $t_5$  to a time  $t_7$  in a second step. As a result, a tungsten film 18 is grown on tungsten metal nuclei on a contact layer 17. The total feed of tungsten hexafluoride gas is secured in the second step, so that the feed of tungsten enough in amount to fill up recesses such as contact holes formed in an oxide film 16 is secured.

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